

Amendments to and Listing of the Claims:

Please amend claims 1, 2, 3, 4, 8 and 9 so that the claims read as follows:

1. (Currently Amended) A polymer electrolyte fuel cell comprising: a hydrogen ion conductive polymer electrolyte membrane; and a pair of electrodes having catalyst layers sandwiching said hydrogen ion conductive polymer electrolyte membrane therebetween and gas diffusion layers in contact with said catalyst layers, wherein at least the catalyst layer of one of said electrodes comprises carbon particles supporting a noble metal catalyst, and said carbon particles comprise at least first carbon particles adsorbing a first hydrogen ion conductive polymer electrolyte and second carbon particles adsorbing a second hydrogen ion conductive polymer electrolyte, wherein the first and the second carbon particles may be the same or different, and the first and the second hydrogen conductive polymer electrolytes are different in size and are dispersed differently ~~include at least two kinds of carbon particles adsorbing a hydrogen ion conductive polymer electrolyte in mutually different dispersed states.~~

2. (Currently Amended) The polymer electrolyte fuel cell as set forth in claim 1, wherein the first and the second ~~at least two kinds of~~ carbon particles differ from each other in specific surface area or DBP oil adsorption.

3. (Currently Amended) The polymer electrolyte fuel cell as set forth in claim 1, wherein a particle size of said first hydrogen ion conductive polymer electrolyte is within a range of 30 to 200 nm when measured by a light-scattering photometer.

4. (Currently Amended) The polymer electrolyte fuel cell as set forth in claim 1, wherein the ~~at least two kinds of carbon particles include~~ first carbon particles have having a specific surface area of 30 to 400 m²/g and the second carbon particles have having a specific surface area of 400 to 1600 m²/g, and particle sizes of the first and the second hydrogen ion conductive polymer electrolytes ~~electrolyte~~ adsorbed to said first and second carbon particles are within a

range of 30 to 200 nm and a range of 200 to 500 nm, respectively, when measured by a light-scattering photometer.

5. (Original) The polymer electrolyte fuel cell as set forth in claim 1, wherein 85° glossiness of a surface of the catalyst layer of at least one of said electrodes measured by an evaluation method of JIS-Z8741 is not less than 20%.

6. (Withdrawn) A method for manufacturing a polymer electrolyte fuel cell, comprising the steps of

(i) adsorbing a polymer electrolyte to first carbon particles supporting a catalyst in a first dispersion in which said polymer electrolyte is dispersed;

(ii) adsorbing a polymer electrolyte to second carbon particles supporting a catalyst in a second dispersion in which said polymer electrolyte is dispersed;

(iii) preparing a catalyst layer ink by mixing said first and second dispersions; and

(iv) forming a catalyst layer from said catalyst layer ink; and further comprising the step of

(v) adjusting a particle size of said polymer electrolyte by mixing a first solvent in which said polymer electrolyte is dispersed with a second solvent having a dielectric constant different from that of said first solvent before adsorbing said polymer electrolyte to said carbon particles in at least one of said first and second dispersions.

7. (Withdrawn) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 6,

wherein a solvent of said first dispersion is a mixture of an alcohol and a second solvent having no hydroxyl group, and

the step of adjusting the particle size of said polymer electrolyte is implemented by mixing an alcohol dispersion of said polymer electrolyte with said second solvent in which said first carbon particles are dispersed.

8. (Currently Amended) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 6,

wherein said step (iv) is the step of forming a catalyst layer by applying said catalyst layer ink on one surface of a gas diffusion layer, thereby ~~and whereby~~ producing an electrode, and

said method further comprises the step of integrally joining the produced electrode to at least one surface of a polymer electrolyte membrane by application of pressure.

9. (Currently Amended) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 6,

wherein said step (iv) is the step of forming a catalyst layer by applying said catalyst layer ink on at least one surface of a polymer electrolyte membrane, thereby and ~~whereby~~ forming a membrane-catalyst layer assembly, and

said method further comprises the step of integrally joining a gas diffusion layer to a catalyst layer side of said membrane-catalyst layer assembly by application of pressure.

10. (Withdrawn) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 6,

wherein said step (iv) includes the step of forming a catalyst layer by applying said catalyst layer ink on a transfer film and the step of forming a membrane-catalyst layer assembly by transferring said catalyst layer to at least one surface of a polymer electrolyte membrane, and

said method further comprises the step of integrally joining a gas diffusion layer to a catalyst layer side of said membrane-catalyst layer assembly by application of pressure.

11. (Withdrawn) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 6, comprising the step of dispersing the catalyst-supporting carbon particles in said catalyst layer ink so as to have a particle size distribution within a median diameter range of 0.1 to 3 μm .

12. (Withdrawn) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 6, comprising the step of applying hydrophilicity treatment to the carbon particles supporting the catalyst before adsorbing said polymer electrolyte.

13. (Withdrawn) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 9,

wherein a surface tension of a dispersion medium of said catalyst layer ink is smaller than a critical surface tension of said polymer electrolyte membrane.

14. (Withdrawn) The method for manufacturing a polymer electrolyte fuel cell as set forth in claim 10,

wherein a surface tension of a dispersion medium of said catalyst layer ink is smaller than a critical surface tension of said transfer film.